

PTO 08-0160

CC=DE DATE=19931202

KIND=C1

PN=4300231

PETRI DISH
[PETRISCHALE]

Peter Schulz, M.D.

UNITED STATES PATENT AND TRADEMARK OFFICE
Washington, D.C.

October 2007

Translated by: FLS, Inc.

PUBLICATION COUNTRY

(19): DE

DOCUMENT NUMBER

(11): 4300231

DOCUMENT KIND

(12): C1

PUBLICATION DATE

(43): 19931202

APPLICATION NUMBER

(21): P4300231.5-41

DATE OF FILING

(22): 19930107

ADDITION TO

(61): NA

INTERNATIONAL CLASSIFICATION

(51): C12M 1/22, B01L 3/00 //
C12N 1/20, 1/14 (C12M 1/22, C12R
1:01) (C12M 1/22, C12R 1:645)

PRIORITY

(30): NA

INVENTORS

(72): SCHULZ, PETER, M.D.

APPLICANT

(71): PETER SCHULZ, M.D.

DESIGNATED CONTRACTING

STATES (81): NA

TITLE

(54): PETRI DISH

FOREIGN TITLE

[54A]: PETRISCHALE

DESCRIPTION

/1*

The invention relates to a device of the Petri dish type for enzymology or microbiology.

Petri dishes are flat glass dishes with covers, mainly for incubating bacteria and small fungi.

Therefore they always consist of two parts, whereby the upper part serves as a cover for the sample. If several Petri dishes are put together to form a stack, it is problematic under certain circumstances to take the bottom samples out of the stack.

Starting from the state of the art above, the object of the invention is obvious, in this case to provide a remedy and further develop the Petri dish in such a way that access to each Petri dish is simple when they are put together to form a stack and arranged over each other.

According to the invention, the object set is achieved by a laterally arranged and/or formed hinge piece with a hinge axis that extends at a right angle to the cover side of the Petri dish, which has a hinge projection extending in axial direction and a hinge receiver on the opposite side of the hinge piece that is complementary to the hinge projection.

It can be seen that the invention is then used when the individual Petri dishes can be connected to each other with articulation so that each Petri dish can be moved away from the

stack. In addition, only the uppermost Petri dish requires a cover, since the remaining Petri dishes are covered by the Petri dishes arranged on top of them.

Further effective and advantageous designs of the invention can be seen in the subclaims.

An especially advantageous design provides that the hinge projection has the shape of a peg, whereby the longitudinal center axis of the peg coincides with the longitudinal center axis of the hinge receiver. Therefore, it involves a hinges, the parts of which can be connected to each other and joined together so that they can be released.

In order to prevent unintended excursions of a Petri dish within a stack, another advantageous design of the invention provides that the upper face side of the Petri dish has at least projections extending in axial direction, while in the floor side of the Petri dish recesses are formed into which the projections of the Petri dish lying below of the same type can engage. Because of this measure, a type of latching connection is produced. Since the projections are preferably designed as knobs, the excursion of a Petri dish within a stack can occur with minimal force.

In order to improve the handling of the Petri dishes, an operating projection is provided that is formed on the radial

side of the Petri dish.

For transporting several Petri dishes, a holding device is provided that has a base element, which has a clip that is adjustable in axial direction and works together with the hinge piece and/or the hinge pieces of the Petri dish. In the scope of this inventive concept, it is advantageous if the base element has a peg extending in axial direction that can be inserted in the hinge receiver and aligns with a peg holder of the clip. Because of the capability of changing the length of the clip, a situation is achieved in which both a single Petri dish, as well as several Petri dishes, can be transported without problems.

An exemplary embodiment of the invention is shown schematically in the drawings and will be explained in more detail below. In the drawings:

Fig. 1 shows a device for holding several Petri dishes put together to form a stack,

Fig. 2 shows three Petri dishes connected to each other and

Fig. 3 shows a different form of a Petri dish.

Figs. 1 and 2 show three Petri dishes 12, 14, 16 that can be hinge-connected to each other. Each Petri dish has a laterally molded-on hinge piece 18 with a hinge axis 30 extending at a right angle to the cover side of the respective Petri dish 12, 14, 16. Each hinge piece has a hinge projection 20 extending in axial direction and a hinge receiver 22 arranged

on the opposite side of the hinge piece 18. The hinge receiver 22 is designed so it is complementary to the hinge projection 20. It can be seen that the hinge projection 20 is designed in the form of a peg, whereby the longitudinal center axis of the peg 20 coincides with the longitudinal center axis of the hinge receiver 22.

It can also be seen in Fig. 1 that the stack of Petri dishes is held by a holding device that has a base element 42 and a clip 44 46 or 50 that is adjustable and cooperates with the hinge pieces 18 of the Petri dishes. The base element 42 has a peg 32 projecting in axial direction that can be inserted in the hinge receiver 18 and aligns with a peg holder 52 for the clip 40, 46 and 50. In the present case, the base element is circular, but can also be rectangular and has a surface that is larger than the surface of the base side of the individual Petri dishes. The column 44 of the clip that extends vertically interacts with a tube piece 46 of the clip and with a locking screw 48. Therefore, the part 46 can be slid in vertical direction and fastened so that the arm 50 with the peg holder 52 can be inserted on the uppermost hinge projection 20. The lower Petri dish 16 is connected, hinged, with the peg 32 by way of its hinge receiver 22. If appropriate pressure is exerted on arm 50, the stack formed of the Petri dishes is connected with the holding device so it cannot turn.

It can also be seen from Fig. 2 that the upper face side of the Petri dish 12 has two projections 54, while in the base side of the Petri dish 14 recesses are formed, in which the projections of the Petri dish lying below it can engage. The Petri dishes shown in Fig. 1 and 2 are designed in the same way so that they each have the same number of projections and recesses and hinge projections and hinge receivers shaped in the same way. In addition, each Petri dish 12, 14, 16 has an operating projection 20 that is formed on the radial side of the Petri dish. The operating projection 24 is used mainly to swing the respective Petri dish out of the stack.

Finally Fig. 3 shows a Petri dish that is approximately rectangular in its vertical tope view and has a working space divided into four working fields separate from each other. In this case, a hinge piece 18 with a hinge projection 20 and a hinge receiver 22 are provided.

All Petri dishes have a surrounding apron formed in their base /2 area that is used as a cover for the Petri dish arranged below it. The apron is sized in such a way that it takes over the function of a cover (see Fig. 2). Since the Petri dishes 12, 14, 16 are hinged to each other and can be moved in the direction of the hinge axis 30, swinging the Petri dish in and out is unproblematic in spite of the aprons.

The main advantage of the suggested device can be seen in the reusability of the Petri dishes.

Claims

1. Device of the Petri dish type for enzymology or microbiology, characterized by a hinge piece (18) that is arranged and/or formed laterally with a hinge axis (30) that extends at a right angle to the cover side of the Petri dish (14), which has a hinge projection (20) extending in axial direction and a hinge receiver (22) arranged on the opposite side of the hinge piece (18) that is designed so it is complementary to the hinge projection (20).

2. Device according to Claim 1, characterized in that the hinge projection (20) has the shape of a peg.

3. Device according to Claim 1 or 2, characterized in that the longitudinal center axis of the pin (20) aligns with the longitudinal center axis of the hinge receiver (22).

4. Device according to one of Claims 1 to 3, characterized in that the hinge piece (18) is formed on the radial outside of the Petri dish (14).

5. Device according to one of Claims 1 to 4, characterized in that the upper face side of the Petri dish (14) has at least two projections (54) extending in axial direction.

6. Device according to Claim 5, characterized in that in the base side of the Petri dish (14), recesses are formed into

which the projections (54) of a Petri dish of the same type lying below can engage.

7. Device according to one of Claims 1 to 6, characterized in that the Petri dish (14) has three projections and corresponding recesses.

8. Device according to one of Claims 1 to 7, characterized in that the Petri dish (14) has an operating projection (24) formed on it.

9. Device according to Claim 1, characterized in that the operating projection (24) is formed on the radial side of the Petri dish (14).

10. Device according to one of Claims 1 to 9, characterized by a holding device with a base element (42) that has a clip (44, 46, 50) that can be adjusted in axial direction and works together with the hinge piece (18) and/or the hinge pieces of the Petri dish(es).

11. Device according to Claim 10, characterized in that the base element (42) has a peg (32) projecting in axial direction that can be inserted in the hinge receiver (18) and aligns with the peg holder (52) of the clip.

12. Device according to one of Claims 1 to 11, characterized in that in its base area, the radial outside of the Petri dish (12) changes into an apron that expands conically

downward and serves as a cover for the Petri dish (14) arranged under it.

13. Device according to Claim 12, characterized in that the apron projects on the radial side beyond the cover side of the Petri dish (14) arranged under it.

14. Device according to one of Claims 1 to 13, characterized in that the Petri dish (12, 14, 16) is designed so it is round, oval or N-shaped in its radial top view.

1 Page of drawings follows

DRAWINGS PAGE 1
C1 /3

Number: DE 43 00 231

Int. Cl.⁵: C12M 1/22
Publication date: Dec. 2,

1993

* Number in the margin indicates pagination in the foreign text.